NON-MAGNETIC ROBOTIC MANIPULATORS FOR MOVING OBJECTS RELATIVE TO A CHARGED-PARTICLE-BEAM OPTICAL SYSTEM

Abstract of the Disclosure

In the context of charged-particle-beam (CPB) microlithography systems, robotic manipulators are disclosed for conveying objects such as reticles and substrates simultaneously with performing exposures without causing significant perturbation of the charged particle beam. To such end, the subject manipulators comprise moving members that are made of substantially non-magnetic materials. As the moving members move in the vicinity of a magnetic field controlling exposure-beam trajectory, the beam trajectory is less affected by stray magnetic fields that otherwise would be generated if the moving members were made of magnetic materials. Hence, for better throughput, reticle and/or substrate conveyance can be conducted while exposures are being performed, without adversely affecting exposure accuracy.